

What is claimed is:

1. A near field optical recording device for recording or reproducing information by making a near field light incident on a recording medium, wherein  
5 an air induction channel is formed extended from an outside to a collective lens at a head slider where the collective lens is mounted facing near the surface of the recording medium.

2. The device of claim 1, wherein at least one air induction channel is  
10 formed penetrating the head slider.

3. The device of claim 1, wherein the longitudinal direction of the air induction channel is the same as the rotational direction of the recording medium.

4. The device of claim 1, wherein an air discharge hole is additionally  
15 formed at the head slider.

5. The device of claim 1, wherein the collective lens is a solid immersion lens.

6. The device of claim 1, wherein the air induction channel introduces air flow generated according to the rotation of the recording medium into the head slider.

7. A near field optical recording device comprising:

a recording medium for recording optical information;  
a first driving unit for rotating the recording medium;  
an optical pick-up unit having a light source and light modulation unit;  
a second driving unit for rotating the optical pick-up unit;

5 a head assembly including a head slider being positioned at an upper surface of the recording medium and having at least one lens mounted thereon, the head slider having an air induction channel starting from the outside of the head slider to the lens, and a connection unit for connecting the head slider and the optical pick-up unit.

10 8. The device of claim 7, wherein at least one air induction channel is formed penetrating the head slider.

15 9. The device of claim 8, wherein at least two air induction channels are formed penetrating the head slider, of which one serves as an air discharge passage.

20 10. The device of claim 7, wherein the longitudinal direction of the air induction channel is the same as the rotational direction of the recording medium.

11. The device of claim 7, wherein an objective lens for focussing light generated from the optical pick-up unit and a collective lens for transmitting the focussed light to the recording medium are mounted at the head slider.

25 12. The device of claim 11, wherein the collective lens is a solid

immersion lens.

13. The device of claim 7, wherein an air discharge hole is additionally formed at the head slider.

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14. The device of claim 13, wherein the air discharge hole is formed corresponding to the direction of the air induction channel.

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15. The device of claim 14, wherein the air discharge hole is formed to have a different height as that of the air induction channel.

16. The device of claim 13, wherein the air discharge hole is formed at a right angle to the direction of the air induction channel.

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17. The device of claim 16, wherein the air discharge hole is formed at left and right side faces of the head slider.

18. The device of claim 16, wherein the air discharge hole is formed at an upper face or at a lower face of the head slider.

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19. The device of claim 7, wherein the head assembly is positioned in parallel to the rotational direction of the recording medium.

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20. The device of claim 7, wherein the head assembly is positioned at a right angle to the rotational direction of the recording medium.

